16869B-081000U-5 George B. F. Yee, Reg. No. 37,478 Telephone: 650-326-2400 Inventor Shoji Kodama Title: Method and Apparatus for File Replication with a Common Format Sheets of drawings 1 of 12

0101a 0101b NFS/ NFS/ **CIFS CIFS** Client Client 0104 LAN 0102 0103 **NAS Gateway** App Server 0105 0107 0106 SAN **Primary** Secondary Disk Array Disk Array 0106a 0107a **Proprietary Proprietary** Format Format

Fig. 1 (prior art)

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140400 001000110

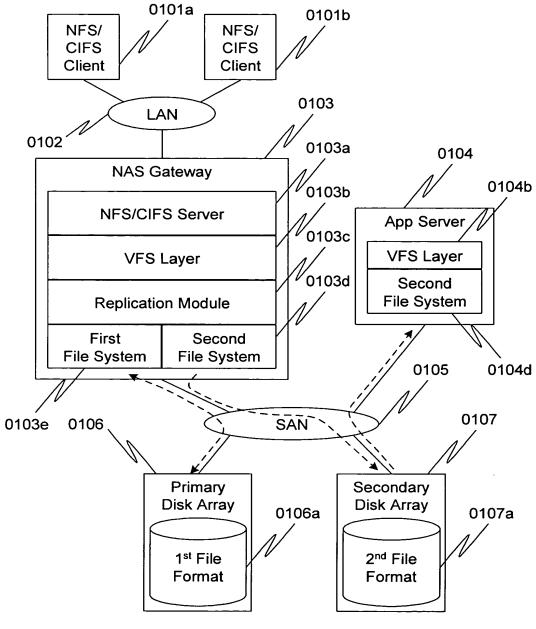


Fig. 2

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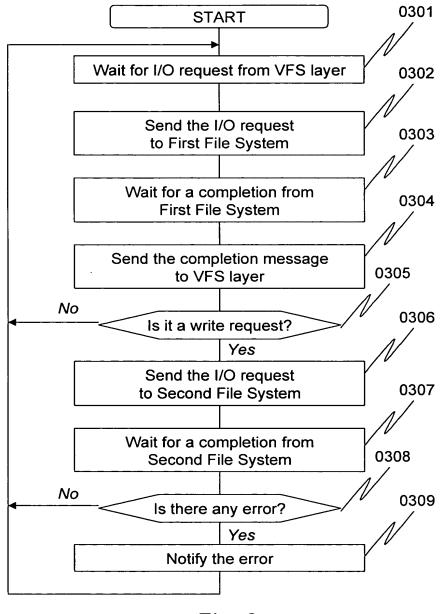


Fig. 3

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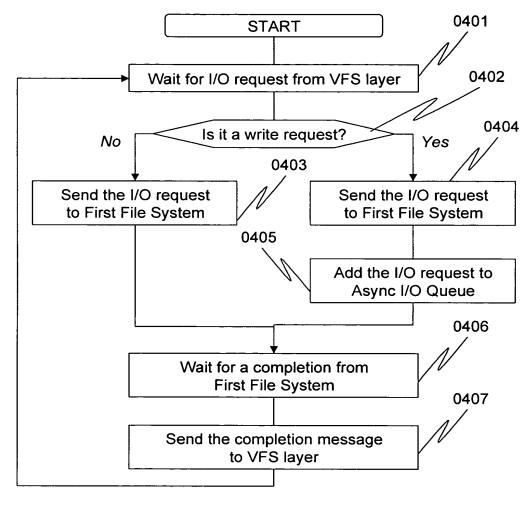


Fig. 4

South Services South

.....

START 0501 No Is any request in Async I/O Queue? 0502 Yes Send the I/O request to Second File System 0503 Wait for a completion from Second File System 0504 No Is there any error? 0505 Yes Notify the error

Fig. 5

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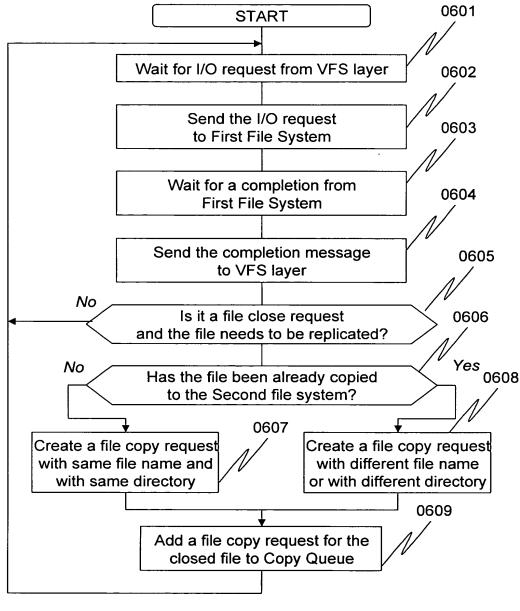


Fig. 6

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0701 **START** No Is any file copy request in Copy Queue? 0702 Yes Copy a file specified in the request from the First file system to the Second file system 0703 Clear a file copy bit in attributes of the file 0704 No 0705 Is there any error? Yes Notify the error

Fig. 7

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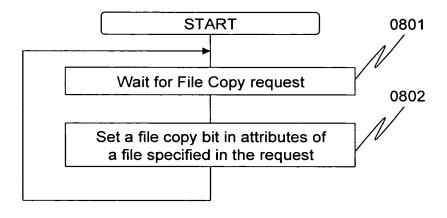


Fig. 8

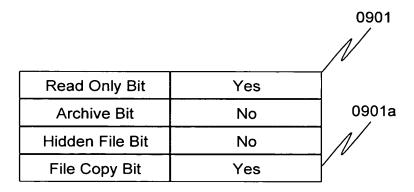


Fig. 9

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. (0.00 001000110

Async
I/O Queue

1002a

1002a

1002b

Request
Next
Next
Next

Fig. 10

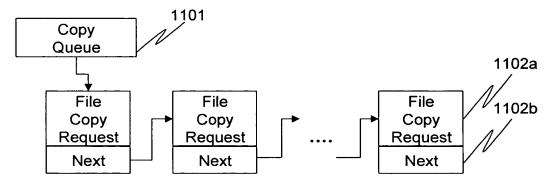


Fig. 11

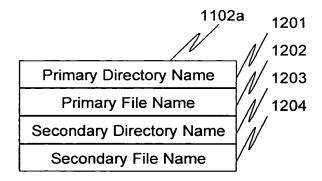


Fig. 12

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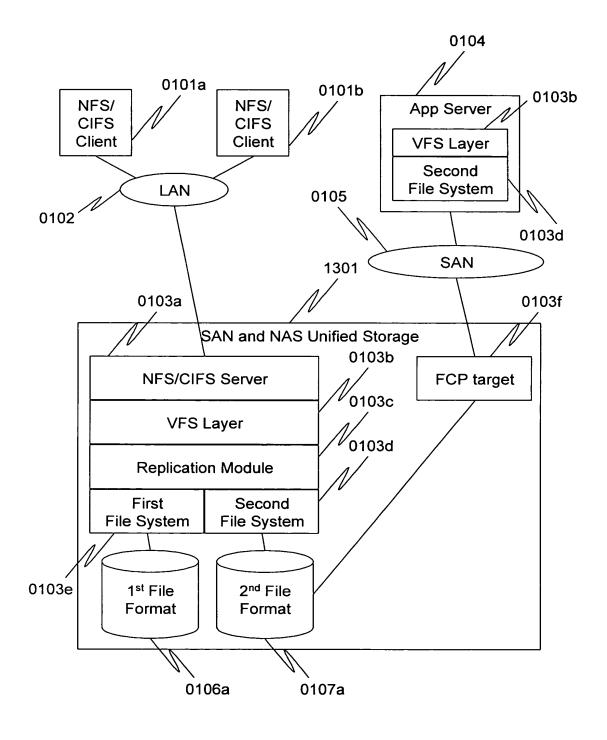


Fig. 13

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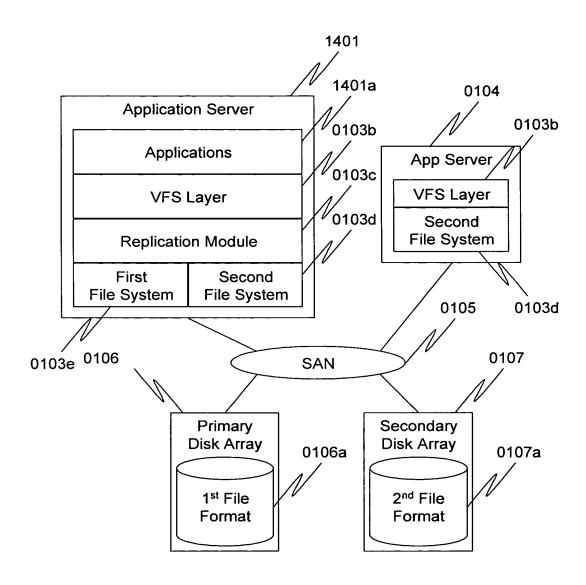


Fig. 14

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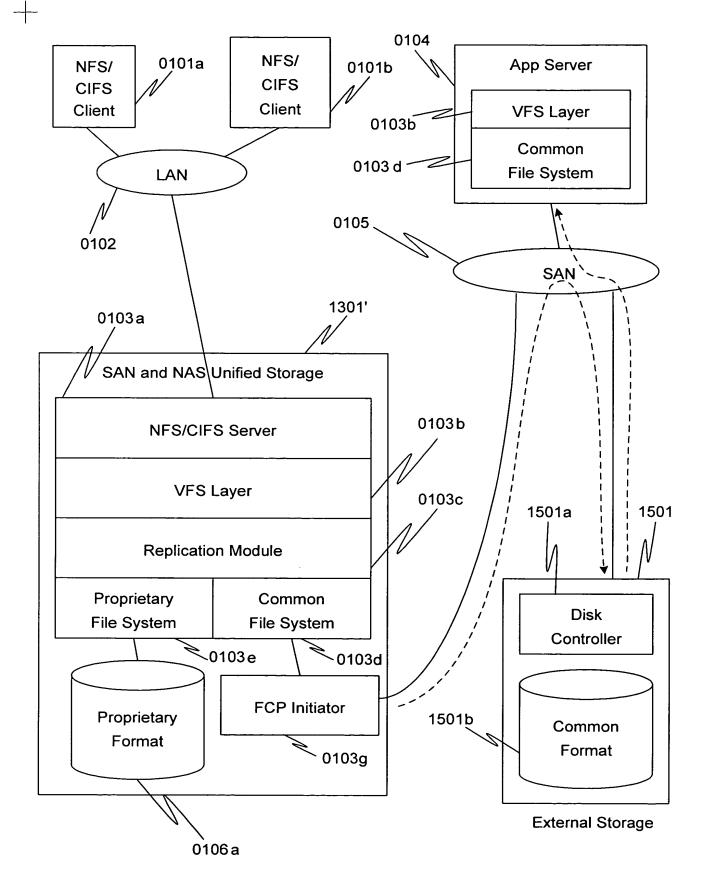


Fig. 15